

# Work Order ID 115082

Monday, March 17, 2014 2:42:38 PM

**\*115082\***

Page 1

Item ID: 647.1611

Revision ID:

Item Name: Wiper Deflector, Aft

Start Date: 3/27/14 Start Qty: 5.00 **\*5\***

Required Date: 3/27/14 Req'd Qty: 5.00 **\*5\***

Reference:

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Stop **\*NS2\***

Cust Item ID:

Customer:

Approvals: Process Plan: ML3 Date: 14-03-19

QC: \_\_\_\_\_ Date: \_\_\_\_\_

Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.1600	A								

100

**\*100\***

Bandsaw

Jeaspa Bandsaw

BAND SAW

Memo

Cut Blanks at 6.00"

0.00

0.00

*14/03/30*

*5 0*

110

**\*110\***

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine per folio FB287

DWG REV: A

FOLIO REV: AA

2- deburr and break all sharp edges

0.00

0.00

*14/04/01*

*5 0*

DAS

14

9-89

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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**Work Order ID 115082**

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**\*115082\***

Page 2

Item ID: 647.1611

Revision ID:

Item Name: Wiper Deflector, Aft

Start Date: 3/27/14 Start Qty: 5.00 **\*5\***Required Date: 3/27/14 Req'd Qty: 5.00 **\*5\***

Reference:

Accept

**\*N900040100\***Setup Start **\*NS1\***Stop **\*NS2\***

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_

Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

QC2- Inspect parts off machine FAI/FAIB

0.00

**\*120\***

QC

Memo

0.00

Quality Control

B. 14/04/02

5 0

130

QC8- Inspect parts - second check

0.00

**\*130\***

QC

Memo

0.00

Quality Control

S 0 MH / Fk  
14/04/02

140

Outsource process-Anodize per QSI017 4.1.10.1

0.00

**\*140\***

Outsource4

Memo

0.00

Outsource process - Anodize

Issue P/O to ATG : 23697

1- Black Anodize as per Dwg 647.1600

2- PRIME AS PER DWG, SEE NOTE #2

Certification of Conformity is required

CX 14/04/08 ③

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other  _____ _____ _____
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**Work Order ID 115082**

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**\*115082\***

Page 3

Item ID: 647.1611

Revision ID:

Item Name: Wiper Deflector, Aft

Start Date: 3/27/14 Start Qty: 5.00 **\*5\***Required Date: 3/27/14 Req'd Qty: 5.00 **\*5\***

Reference:

Accept

**\*N900040100\***Setup Start **\*NS1\***Stop **\*NS2\***

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_

Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150

Receive &amp; Inspect for Damage &amp; Mat'l Certs

0.00

**\*150\***

Packaging

Memo

0.00

Packaging

155

QC5- Inspect part completeness to step on W/O

0.00

**\*155\***

QC

Memo

0.00

Quality Control

180

Identify as per dwg & Stock Location: **8 CA** 0.00**\*180\***

Packaging

Memo

0.00

Packaging

\*\*\*IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV\*\*\*

Py 4/16 (5)55x 14-4-17 **DAS**  
**26**  
**9-89**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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**Work Order ID 115082**

Monday, March 17, 2014 2:42:38 PM

**\*115082\***

Page 4

Item ID: 647.1611

Revision ID:

Item Name: Wiper Deflector, Aft

Start Date: 3/27/14 Start Qty: 5.00 **\*5\***Required Date: 3/27/14 Req'd Qty: 5.00 **\*5\***

Reference:

Accept

**\*N900040100\***Setup Start **\*NS1\***Stop **\*NS2\***

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_

Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

**\*190\***

QC

Memo

0.00

Quality Control

*14-4-17**14-4-17*

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
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# Picklist Print

Page 1

Monday, March 17, 2014 2:42:38 PM

Work Order ID: 115082

**\*115082\***

Parent Item: 647.1611

**\*647 1611\***

Parent Item Name: Wiper Deflector, Aft

Start Date: 3/27/14

Required Date: 3/27/14

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV A NEW ISSUE VERIFIED BY DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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647.1611E		Manufactured	No				f	132.0000		3			
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**\*647 1611F\***

**\*\***

Wiper Deflector

Location

Loc Qty

Loc Code

MAT034

132

91744

132

3 on 14/03/30

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other  _____ _____ _____
--	--	---	---

<b>APICAL</b> INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 04229			SHEET 1 OF 1	
	DWG NO. 647.1600	REV: A	PREPARED BY J. SOTO	DATE: 11/11/2013	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.
	DWG TITLE: WIPER DEFLECTOR ASSY				
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>David Barber</i>	QC <i>[Signature]</i>	EFF. NEXT ORDER	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED F/N 8			ECR: 13-032	

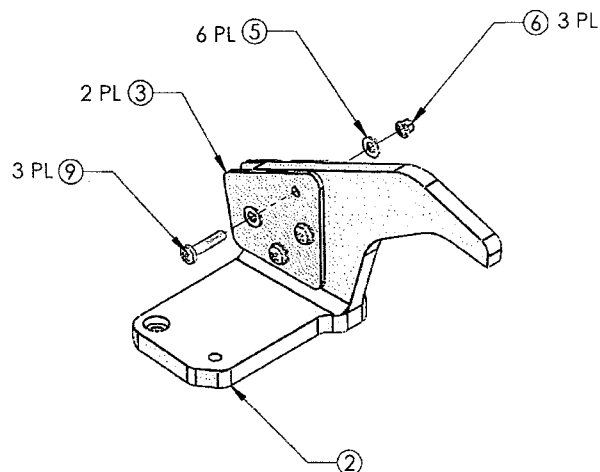
115082 MLS  
14-03-19

8	R	601.2207	8		NUTPLATE RIVET	CCR265SS3-3	
F/N	TC	PART NUMBER	.1602	.1601	DESCRIPTION	MATERIAL	SPECIFICATION
			QTY				
DOCUMENTS EFFECTED:					CHANGE CATEGORY	DER REVIEW REQUIRED	
<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUCTIONS <input type="checkbox"/> ICA <input type="checkbox"/> FMS <input checked="" type="checkbox"/> BOM					<input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

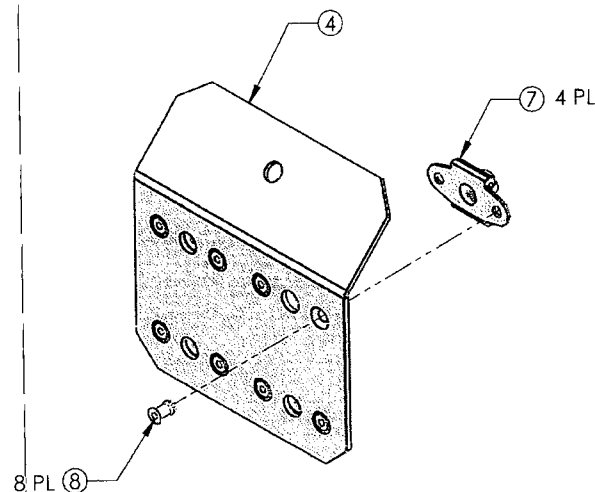
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# NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 AMS-QQ-A-250/12
- 2 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4
- 3 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N
4. DEBURR AND BREAK ALL SHARP EDGES
5. IDENTIFY IAW MPP-120



647.1601 SHOWN EXPLODED



647.1602 SHOWN EXPLODED

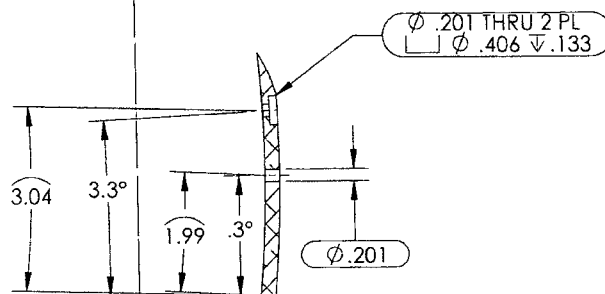
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION: R01	08/10/07	J. GARDNER
2	INITIAL RELEASE	08/10/07	P. BRAVO
3	INCORPORATED ECN 04229	08/09/13	P. BRAVO

UNINCORPORATED ECN(s)

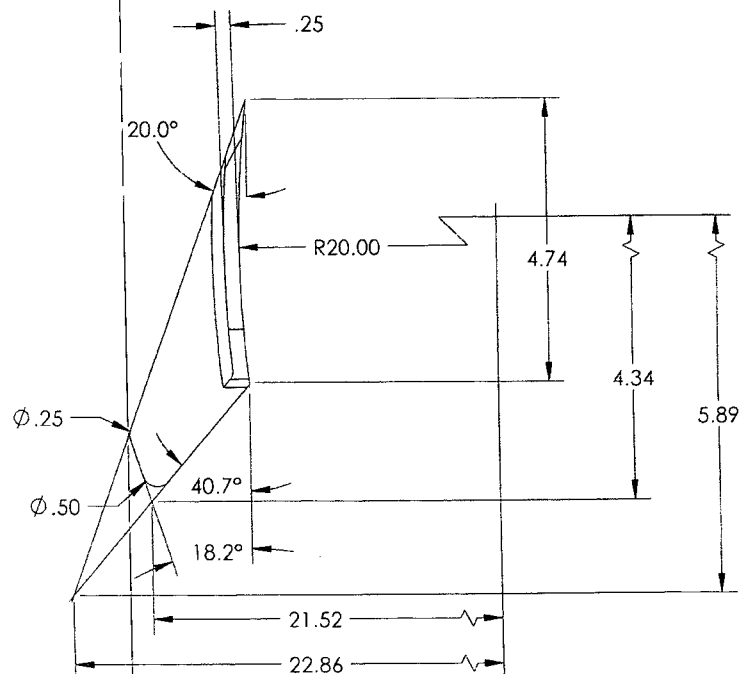
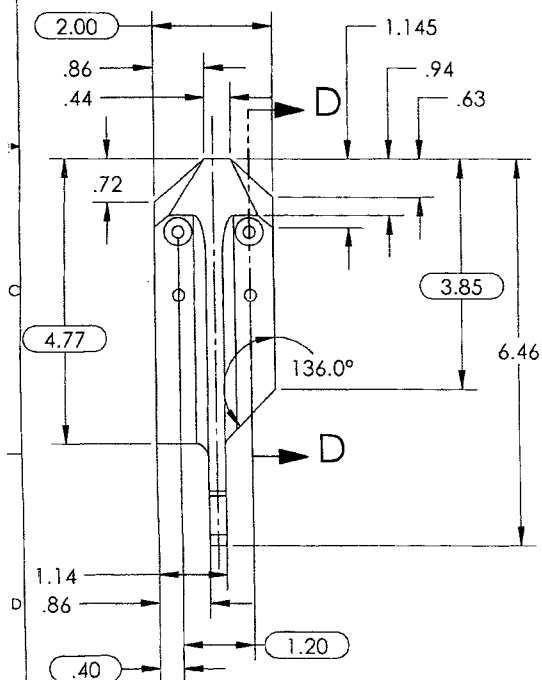
04229

		3	9	601.2989	SCREW	MS27039-0812	
	8	8	601.2980	NUTPLATE RIVET	CCRI24455-3-04		
	4	7	601.1900	NUTPLATE	MS21059-3		
		3	6	601.2973	LOCKNUT	MS21042-08	
		6	5	601.2764	WASHER	NAS1149FN32P	
	1		4	647.1613	DOUBLER	△	△
		2	3	647.1612	SPICE PLATE	△	△
		1	2	647.1611	WIPER DEFLECTOR, AFT	△	△
			1	647.1610	WIPER DEFLECTOR, FWD	△	△
	X			647.1602	DOUBLER ASSY		
		X		647.1601	WIPER DEFLECTOR ASSY, AFT		
	1602	1601	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
QTY				PARTS LIST			
NEXT ASSY (S)				APICAL INDUSTRIES			
647.1300				2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92036-3312 (760)724-5300			
				WIPER DEFLECTOR ASSY			
				SEE CAGE CODE DWG NO.			
				B 07M26 647.1600			
				SCALE NONE SHEET 1 OF 6			
				REV A			
				UNITS: OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES: 1:3			

APICAL INDUSTRIES  
2608 TEMPLE HEIGHTS DR.  
OCEANSIDE, CA. 92056-3512 (760)724-5300  
WIPER DEFLECTOR ASSY

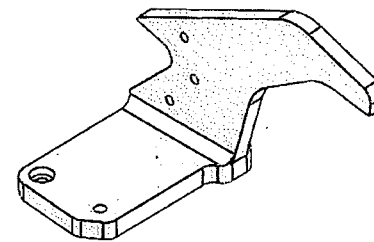
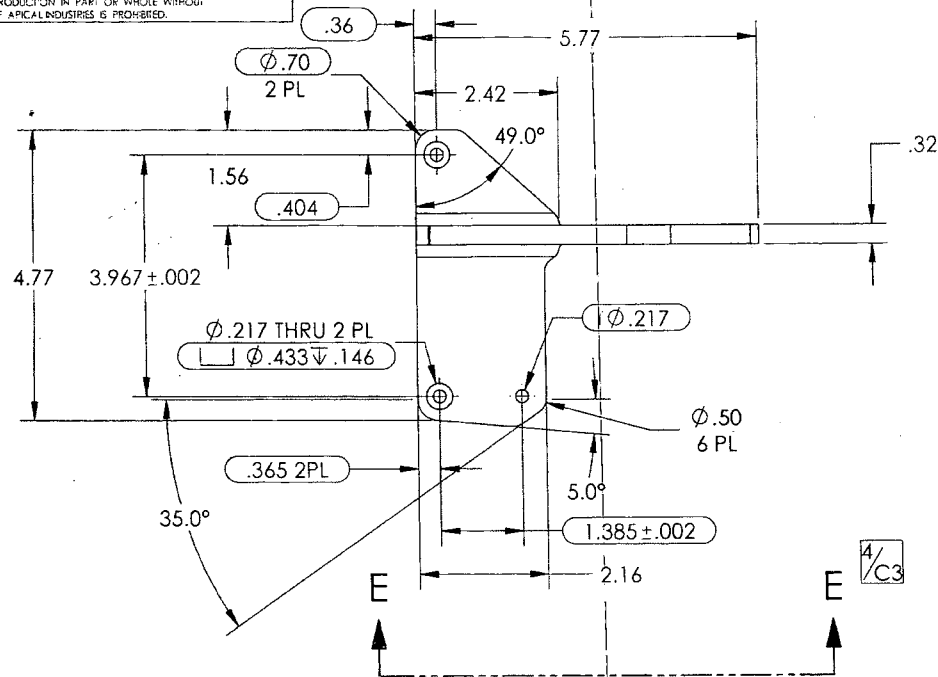


647.1610

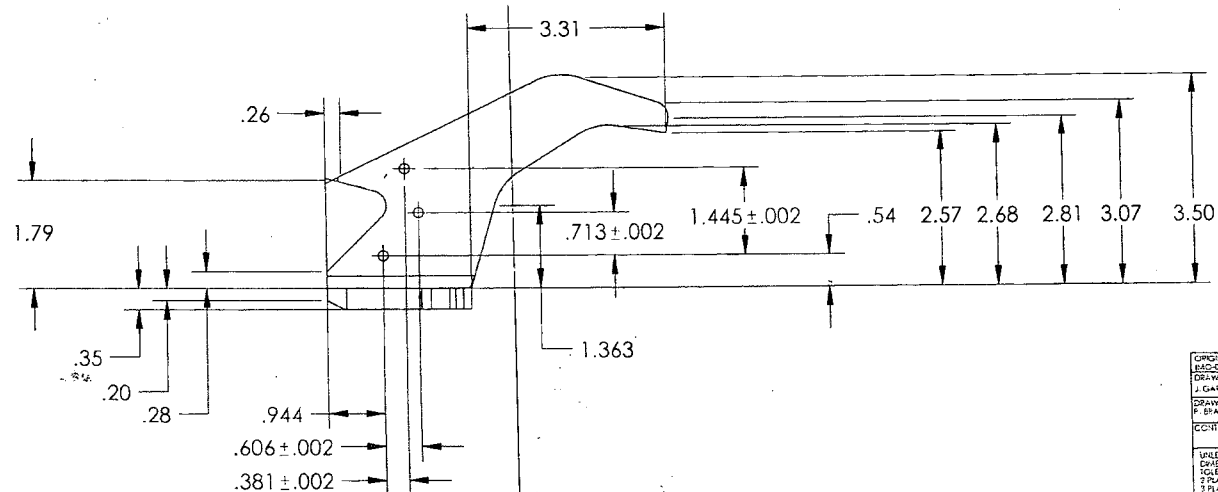


ORIGINAL DATE (M/D/Y-YY) 05-10-09	APICAL INDUSTRIES		
DRAWING BY J. GARDNER	CHECKED P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO			
CONTRACT NO.	WIPER DEFLECTOR ASSY		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. FINISH DIMENSIONS ± .01 2. HOLE DIMENSIONS ± .005 ± .0013	SIZE	CAGE CODE 67476	DWG. NO. 647.1600
	SCALE: NONE		REV A
	SHEET		2 OF 6

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647.1611



ORIGINAL DATE 10/01/01		DESIGNED BY J. GARDNER		CHECKED BY P. BRAVO	
DRAWING APPROVAL P. BRAVO		CONTRACT NO.		WIPER DEFLECTOR ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .001 ANGLES ± .5°		SIZE B	CAGE CODE 071426	DWG. NO. 647.1600	REV. A
SCALE: NONE		SHEET 3 OF 6			

Technical drawing of a mechanical part, likely a valve or fitting, showing dimensions and angles. The drawing includes a cross-section view on the left and a side view on the right. Key dimensions include diameters ( $\text{Ø}.10$ ,  $\text{Ø}.2.00$ ,  $\text{Ø}.51$ ,  $\text{Ø}.170$ ), radii ( $R1.00$ ,  $R.25$ ), and angles ( $14.6^\circ$ ,  $25.7^\circ$ ,  $44.3^\circ$ ,  $32.0^\circ$ ,  $73.4^\circ$ ,  $8.4^\circ$ ,  $17.7^\circ$ ). A note indicates  $.15 \times 62.7^\circ$  for a specific feature. The side view shows a curved profile with a radius of  $R1.00$  and  $R.25$ . The cross-section view shows a cylindrical body with a central hole of diameter  $\text{Ø}.170$  and a thickness of  $.75$ . The part is labeled  $\text{Ø}.170$  3 PL.

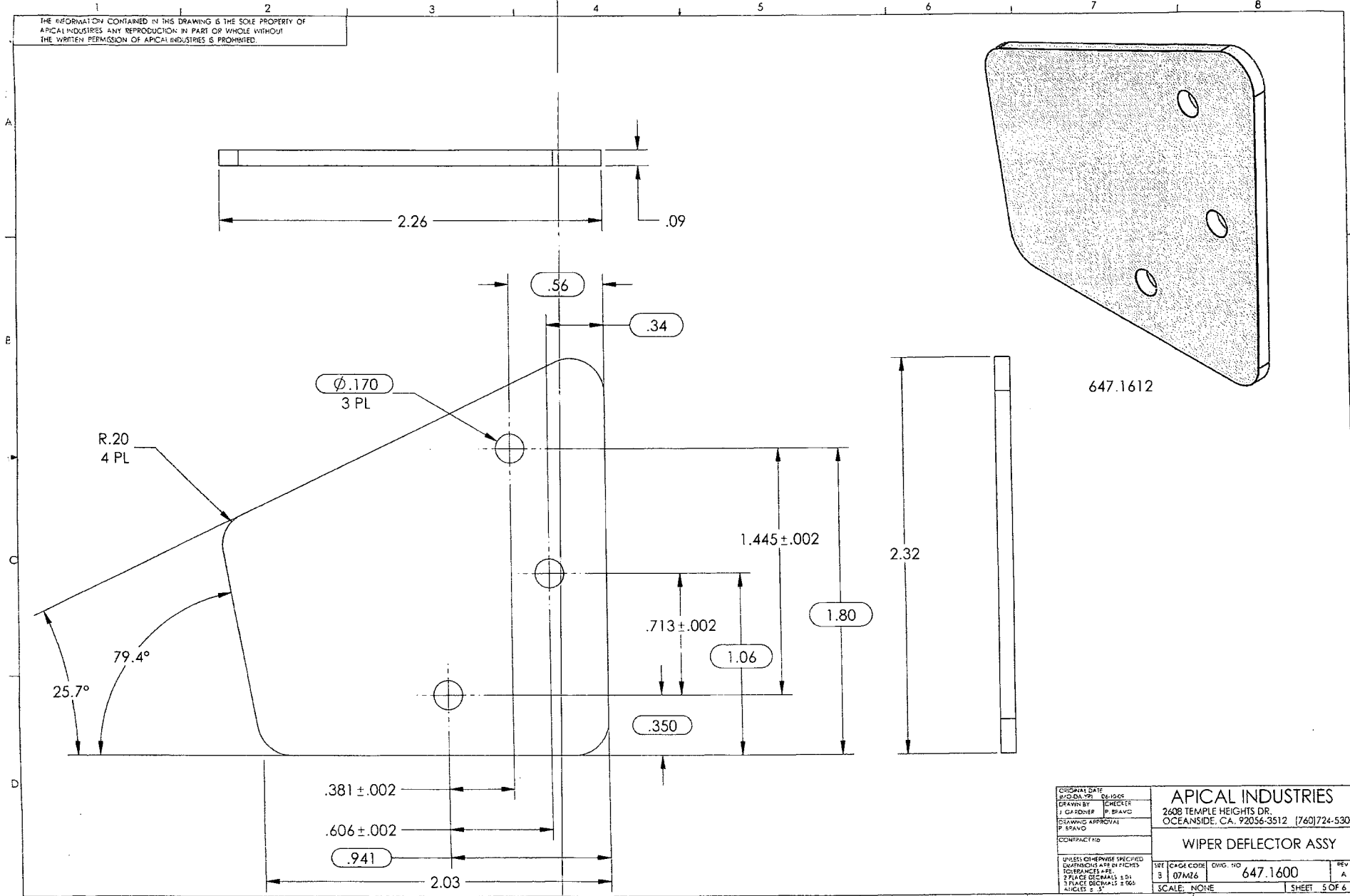
Diagram showing the elevation view of the stiffener and plate. The stiffener height is 3.89 inches. The plate width is 4.88 inches. The stiffener base radius is R.20. The plate thickness is 1/2 inch.

ORIGINAL DATE 8-10-84-191	DATE 08-10-84	APICAL INDUSTRIES	
DRAWN BY J. GARDNER	CHECKED BY P. BRAYO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAYO			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACES DECIMALS ± .005 2 PLACES DECIMALS ± .01 ANGLES ± .5°			
SIZE B	CAGE CODE 97M46	DWG NO. 647.180	REV A
SCALE: NONE		SHEET 4 OF 6	



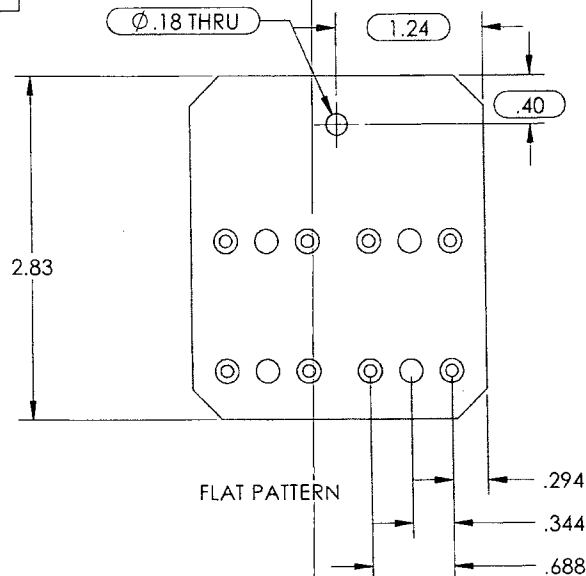


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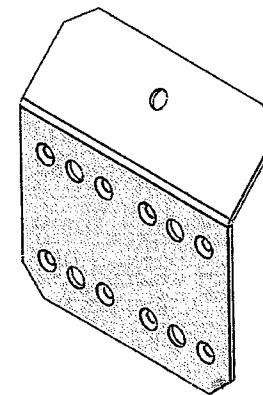
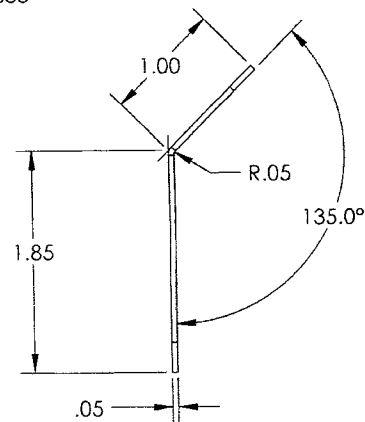
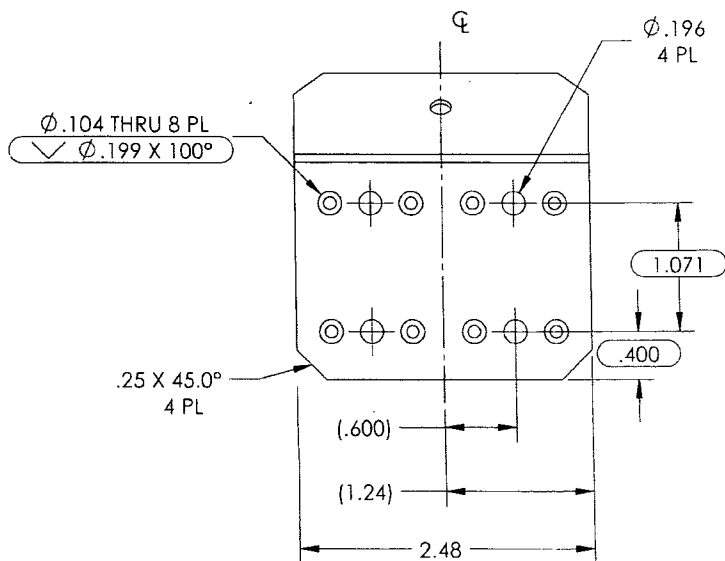


ORIGINAL DATE 11-01-01 06-10-06		<b>APICAL INDUSTRIES</b> 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300			
DRAWN BY: J. GARDNER P. BRAVO					
DRAWING APPROVAL P. BRAVO					
CONFIRMED BY		<b>WIPER DEFLECTOR ASSY</b>			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$					
REV	CHG CODE			CHG NO	REV
3	07M26			647.1600	A
SCALE: NONE				SHEET 5 OF 6	

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FLAT PATTERN



647.1613

ORIGINAL DATE 10-15-99		APICAL INDUSTRIES	
DRAWN BY J. GARDNER	CHECKED P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BRAVO		WIPER DEFLECTOR ASSY	
CONTRACT NO.		SIZE B	REV A
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$		CAGE CODE 07/AZ6	DWG. NO. 647.1600
SCALE: NONE		SHEET 5 OF 6	

<b>DART AEROSPACE LTD</b>	<b>Work Order:</b>	115082
<b>Description:</b> Wiper Deflector Aft	<b>Part Number:</b>	647.1611
<b>Inspection Dwg:</b> 647.1600 Rev: A		Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.32	+/- .010	0.323	✓		Mic	GA-03
5.77	+/- .010	5.769	✓		H-6	31006
2.42	+/- .010	2.419	✓		Vern	GA-01
0.36	+/- .010	0.364	✓		"	"
0.404	+/- .005	0.404	✓		"	"
3.967	+/- .002	3.967	✓		H-6	31006
φ0.433	+0.000/-0.010	φ0.428	✓		Vern	GA-01
↓.146	+/- .005	↓0.142	✓		"	"
0.365	+/- .005	0.364	✓		"	"
2.16	+/- .010	2.164	✓		"	"
1.385	+/- .002	1.385	✓		H-6	31006
φ0.217	+0.005/-0.001	φ0.218	✓		Vern	GA-01
0.35	+/- .010	0.357	✓		Mic	GA-03
0.20	+/- .010	0.200	✓		Vern	GA-01
0.944	+/- .005	0.944	✓		H-6	31006
0.606	+/- .002	0.606	✓		"	"
0.381	+/- .002	0.382	✓		"	"
0.713	+/- .002	0.713	✓		"	"
1.445	+/- .002	1.445	✓		"	"
0.54	+/- .010	0.532	✓		"	"
<del>A/30</del>	<del>NA/000</del>	<del>—</del>	<del>—</del>		<del>—</del>	<del>—</del>

<b>Measured by:</b> D.A.	<b>DAS</b> 08	<b>Audited by:</b> MH / P.K.	<b>Preliminary Approval:</b>
<b>Date:</b> 14/04/02	9:29	<b>Date:</b> 14/04/04	<b>Date:</b>

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

10.04.15



1063  
20  
100



A.T.G. Industries Inc.  
731, rue Industrielle Rd.  
PLATING DEPARTMENT  
Rockland, On K4K 1T2  
Canada  
Ph: (613) 446-4544  
Fax: (613) 446-4556

### Pack List

Number: 62987

Date: 16-Apr-14

#### To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

#### Ship To


DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms		Ship Via	
Quantity	Description		
1 lot	Part: ASST  5 PCS 647.1611 (10.70) 5 PCS <del>646.9710</del> (14.50) 5 PCS 647.0410 (8.65)  HARS ANODIZE BLACK MIL-A-8625 TYPE III CLASS 2  PRIME MIL-P-23377J TYPE I CLASS N  PRICE IS PER PIECE Job: 20140220	Rev:	Line:
Certificate of Conformance			
A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.			
ISO 9001 : 2008 REGISTERED ATG SALES-2010 TERMS APPLY			
DATE : <u>16/4/14</u>			
CERTIFIED SIGNATURE : <u></u>			
RECEIVER SIGNATURE : _____			



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

# PURCHASE ORDER

Purchase Order ID **PO23697**

Purchase Order Date 4/8/2014

PO Print Date 4/16/2014

Page Number 1 of 2

**Order From :**

VC-ATG001

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

A.T.G. INDUSTRIES INC.  
731 INDUSTRIELLE ROAD  
ROCKLAND, ON K4K 1T2  
CANADA

*REVISED*

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
Line Comments			Promise Date				
Delivery Comments							

1	115082	647.1611 WIPER DEFLECTOR	4/23/2014		5.00	\$10.70	\$53.50
			Yes				
			4/23/2014				

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total: \$53.50

2	113268	646.9710 BODY	4/23/2014		5.00	\$14.50	\$72.50
			Yes				
			4/23/2014				

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total: \$72.50

3	116148	647.0410 TUBE	4/23/2014		5.00	\$8.65	\$43.25
			Yes				
			4/23/2014				

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Note:

4/16/2014